
SUBSTANCE USE AND MENTAL HEALTH IN MISSOURI DURING COVID-19

FACEBOOK SURVEY RESULTS



Table of Contents

Table of Contents	1
Introduction	2
Methods	3
Results	4
Demographics	4
COVID-19 Pandemic Experiences	5
Diagnosis of COVID-19	5
Pandemic-Related Stress	5
Loss of Support Systems	6
Substance Use	7
Alcohol	7
Cigarettes	8
E-Cigarettes	9
Marijuana	9
Prescription Drugs	10
Mental Health	12
Isolation	12
Depression	12
Suicidality	12
Discussion	13
Appendices	13
Appendix A: Facebook Ads	14
Appendix B: Survey Questions	15
Appendix C: Participation by County	24
Appendix D: Linear Regression Results	25

INTRODUCTION

The COVID-19 (Coronavirus Disease 2019) pandemic brought about sudden, unexpected changes in the day-to-day lives of people all over the world, including Missouri. Changes in social lives, employment, childcare, and access to other services, as well as the stress of the pandemic itself, can have wide ranging effects on both mental and physical health.

The Centers for Disease Control and Prevention (CDC) suggests the following may be side effects of the stress brought on by a global infectious disease outbreak: ¹

- Fear and worry about own health and the health of others
- Fear about your financial situation or job
- Loss of support services
- Change in sleep or eating patterns
- Difficulty sleeping or concentrating
- Worsening of chronic health problems
- Worsening of mental health conditions
- Increased use of tobacco and/or alcohol and other substances

Stress may affect certain populations differently than others. Some groups of people who may respond more strongly to the stress of the pandemic include: ¹

- People at high risk of severe illness
- Children and teens
- People caring for family members or loved ones
- Frontline workers and essential workers
- People with existing mental health conditions
- People who use substances or substance use disorders
- People who have lost their jobs or other major changes to employment
- Those with disabilities or developmental delays
- Those who are socially isolated from one another, including those who live alone or in rural areas
- Racial and ethnic minority groups
- Those whose primary language is not English
- Those experiencing homelessness

This report covers the results of a survey, conducted during the summer of 2020, aiming to measure the effects of the pandemic on stress, substance use, and mental health among Missouri adults. This study was conducted by the Missouri Institute of Mental Health (MIMH), in collaboration with the Missouri Department of Mental Health, for the Partnerships for Success grant.

¹ CDC Coping with Stress, 2020. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html>

METHODS

The survey focused on the effects of the COVID-19 pandemic on behavioral health, including substance use and mental health. Participants were asked to complete an online survey to assess their experience during the pandemic, including pandemic-specific questions (ex. stress levels, loss of income due to COVID-19), as well as questions about their alcohol, drug use, and mental health. The survey was advertised on Facebook through the Missouri Institute of Mental Health Facebook page (See Appendix A). The ad was targeted for Missouri adults ages 18 or older. When participants clicked on the ad, they were redirected to the Qualtrics survey page containing informed consent (See Appendix B). The ad ran from August 4-28, 2020, and September 9-18, 2020, at which point the survey was closed to further responses. A copy of the survey questions can be found in Appendix B.

No identifying information was collected in the survey and IP addresses from all responses were removed prior to analysis. Participants had the option to provide contact information at the end of the survey in order to be entered into a raffle to win a \$20 Amazon gift card. Contact information was collected in a redirected survey page that is in no way linked to the participant's survey responses. One hundred (100) Amazon gift cards were awarded based on a random sampling of provided contact information.

A total of 1,999 responses were collected. After removing participants who were ineligible (see table below), 1,895 responses were available for analysis. Data were analyzed using IBM SPSS Statistics 26. Frequencies and regression analyses were used to determine the frequency of measured outcomes, as well as potential mediating factors.

Exclusion Criteria	N
Did not consent	28
Answered less than 5 questions	78
Total participants excluded	106

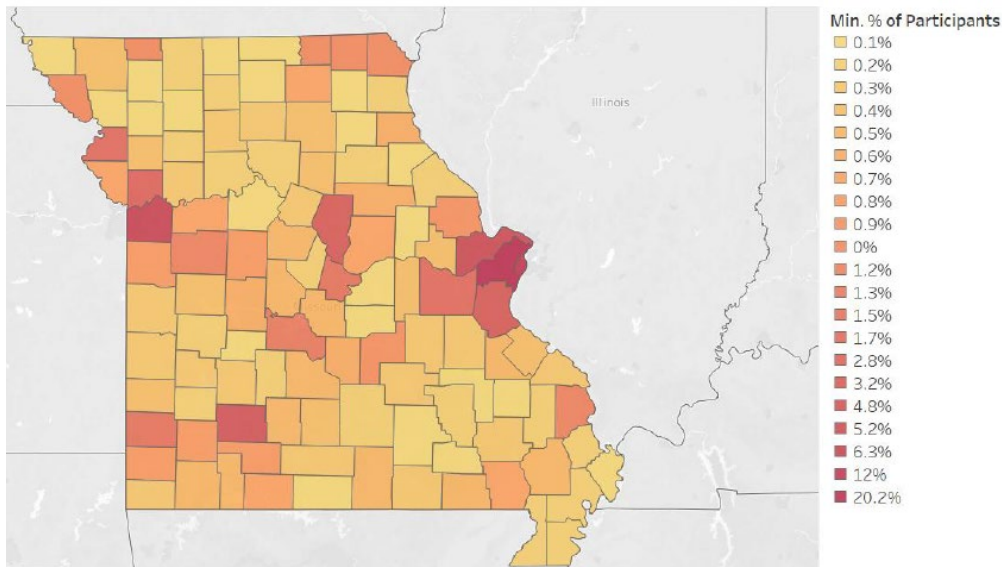
RESULTS

Demographics

Demographic	% of Participants
Gender	
Male	12.1%
Female	86.1%
Other	0.9%
Prefer not to say	0.9%
Race	
White	88.3%
Black/African American	4.3%
Asian	0.6%
Native Hawaiian or Pacific Islander	0.2%
American Indian or Alaska Native	2.0%
Other	2.9%
Hispanic/Latino	1.5%
Age	
18-25	2.3%
26-35	6.9%
36-45	10.8%
46-55	15.7%
56-64	30.8%
65+	33.4%

The sample was primarily female (86%) and White (88%). Just over 4% of participants were Black, and 2% identified as American Indian or Alaska Native. One and a half percent (1.5%) of the sample was Hispanic/Latino.

Slightly over 2% of participants were between the ages of 18-25, about 7% were 26-35, and 10.8% were 36-45. Individuals aged 46-55 represented 15.7% of the sample. Over two-thirds of the sample were over the age of 55: 30.8% were ages 56-64, and 33.4% were age 65 or older. This could be due to the demographic of Facebook users: the share of older users has more than doubled since 2012.² Seniors are the fastest growing age demographic on the platform.¹ Younger users tend to use other social media platforms, such as, Instagram, Twitter, or TikTok.¹



Participants were located across the state of Missouri and 110 of 115 counties were represented. Higher participation rates occurred mostly in urban areas, including St. Louis, Kansas City, Columbia, and Springfield. This map (left) indicates participation rates by county: those shaded darker had more participants than lightly shaded counties. A detailed list of participant counties can be found in Appendix C.

² Pew Research Center, 2019. Retrieved from <https://www.pewresearch.org/fact-tank/2019/05/16/facts-about-americans-and-facebook/>

COVID-19 Pandemic Experiences

DIAGNOSIS OF COVID-19

While very few (2.6%) participants had personally been diagnosed with COVID-19, nearly 60% (58.2%) knew a friend or family member who had been diagnosed.

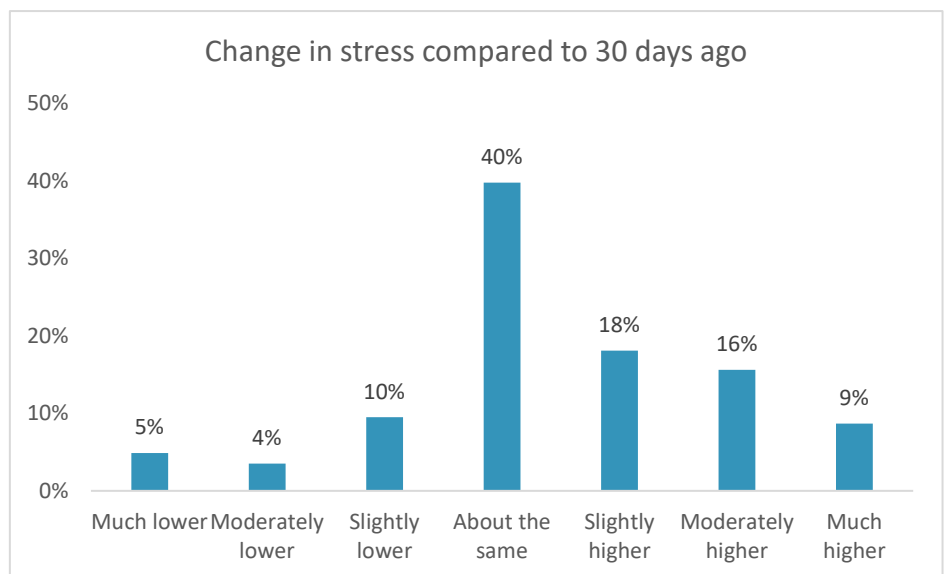
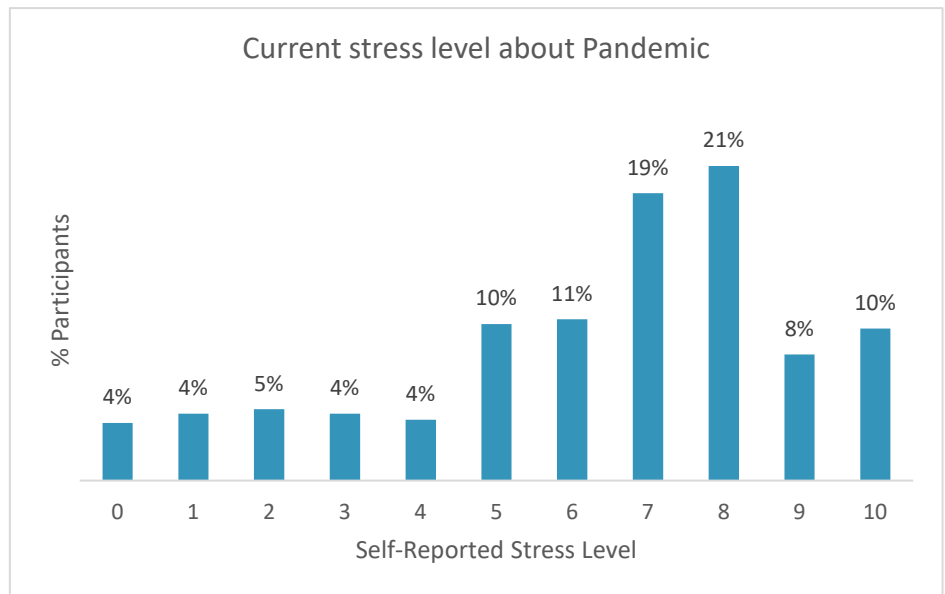
PANDEMIC-RELATED STRESS

Participants were asked to rate their stress levels about the pandemic on a scale of 0-10, with 0 meaning “not stressed at all” and 10 meaning “extremely stressed”. Most participants (58%) rated their stress at 7 or higher. The average stress level was 6.3.

Forty-three percent (43%) of participants indicated that their stress level related to the pandemic had increased in the past 30 days. Conversely, 19% indicated a decrease in pandemic-related stress.

Stress levels were significantly higher among those who had been diagnosed with COVID-19 (mean 7.0) compared to those that had not been diagnosed (mean 6.3, $p < 0.05$). Stress was also significantly higher in women (mean 6.5) compared to men (mean 4.7), $p < 0.001$.

Stress levels were also significantly higher during the last two weeks of survey, September 9-18th. During this time, it was revealed that the Trump administration had been downplaying the severity of COVID-19³; the CDC also reversed its stance on testing those without COVID-19 symptoms, despite the advice of infectious disease scientists.⁴



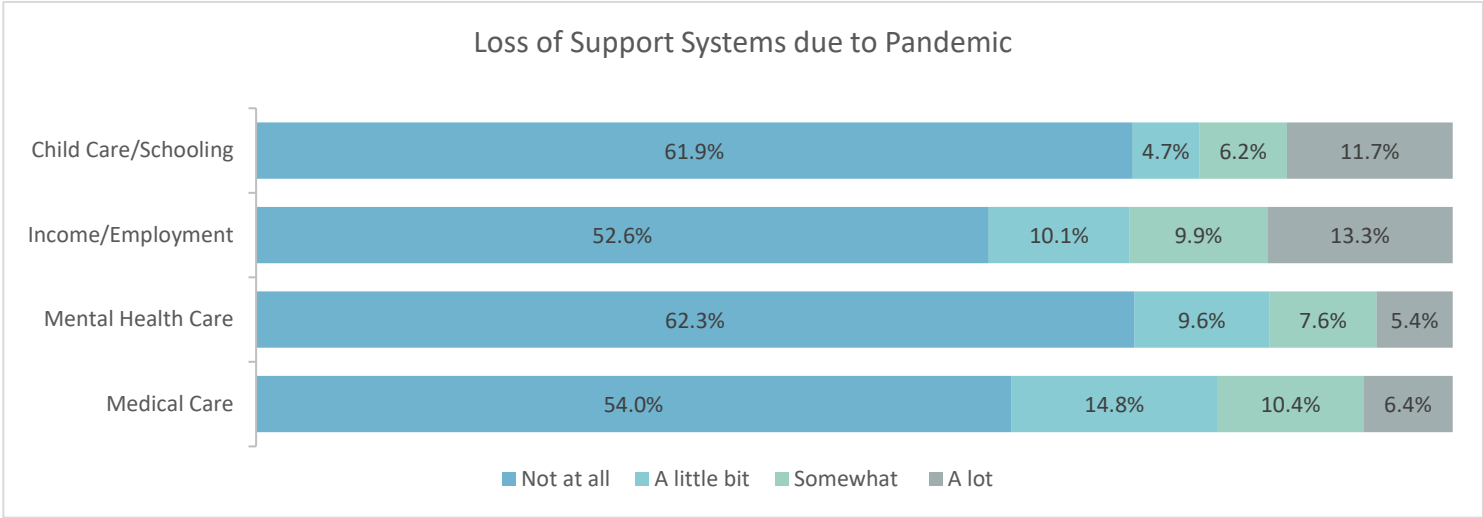
³ New York Times, 2020. *Trump Admits Downplaying the Virus Knowing It Was ‘Deadly Stuff’*. Retrieved from <https://www.nytimes.com/2020/09/09/us/politics/woodward-trump-book-virus.html>.

⁴ New York Times, 2020. *CDC Testing Guidance Was Published Against Scientists’ Objections*. Retrieved from <https://www.nytimes.com/2020/09/17/health/coronavirus-testing-cdc.html>.

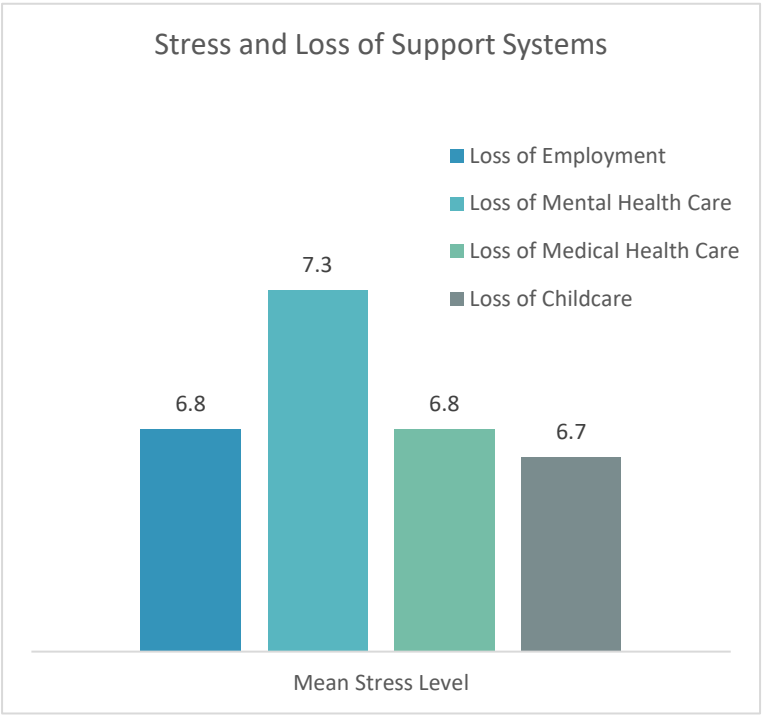
LOSS OF SUPPORT SYSTEMS

Seventy-five percent (75%) of participants reported experiencing at least some loss of support systems due to the pandemic. Support systems included medical care, mental health care, income and/or employment, as well as childcare, school, summer camps, etc. for children.

- 46% reported loss of medical care.
- 38% reported loss of mental health care.
- 47% reported loss of income or employment.
- 38% reported loss of childcare, schooling, summer camps, etc. for their children.



Those experiencing loss of mental health care during the pandemic had the highest mean stress score compared to other types of support loss. Women reported significantly higher stress levels than men for each type of support lost. For example, women who lost income or employment had a mean stress score of 7, compared to a mean of 5 in men.



Substance Use

Participants were asked to identify which substances, if any, they used during the pandemic. Sixty-five percent (65%) of respondents reported using substances. The most commonly used substance was alcohol, with 50% of adults endorsing pandemic use. Other common substances included cigarettes and marijuana. Those who endorsed using a substance during the pandemic were then asked related questions regarding amount and frequency of use.

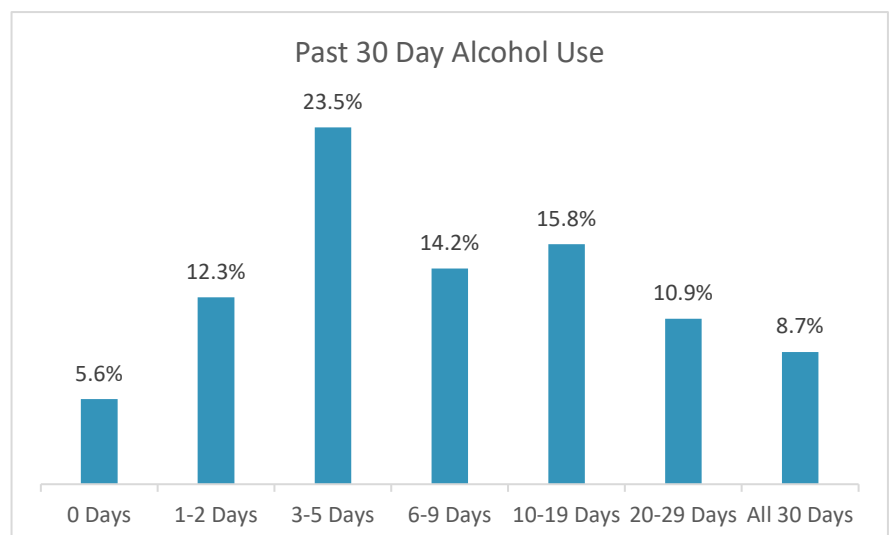
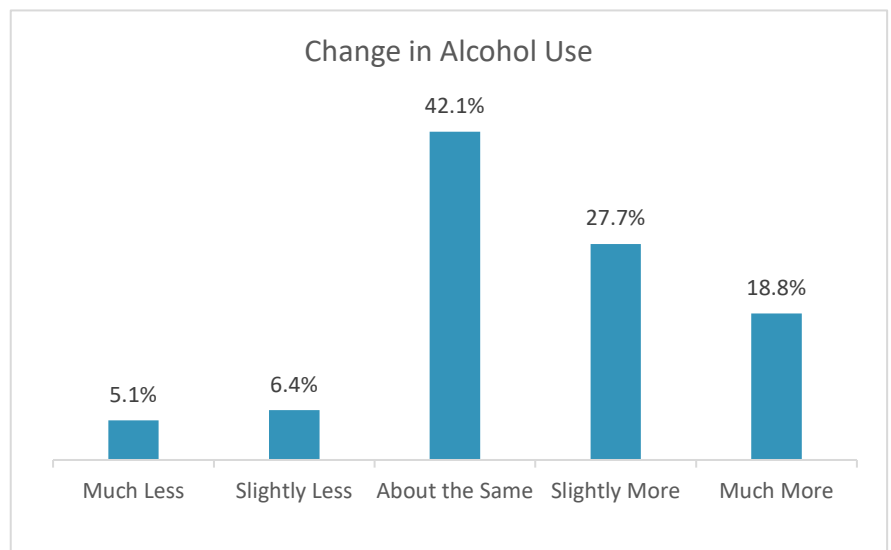
Substance Type	Pandemic Use	Past 30-Day Use
Alcohol	50.3%	46.3%
Cigarettes	18.0%	17.2%
Marijuana	14.8%	13.8%
Prescription drugs	4.1%	3.8%
E-cigarettes	4.0%	1.6%
Other drugs	1.8%	1.4%
No alcohol or substance use	34.9%	n/a

ALCOHOL

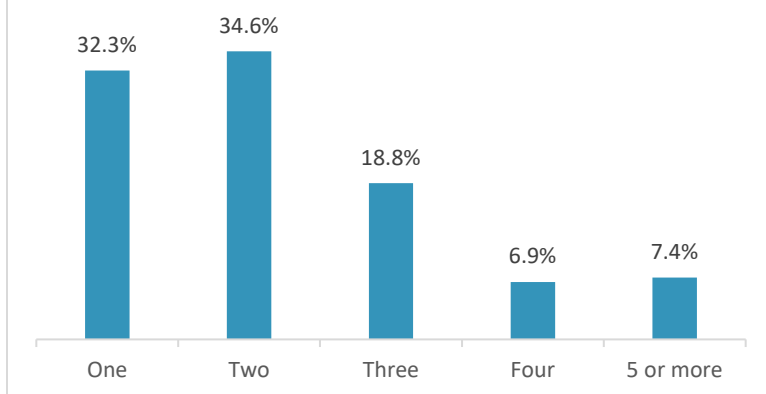
When asked to compare their alcohol use during the pandemic to their usual alcohol use (pre-pandemic), over half participants (56.5%) indicated drinking more alcohol than usual: 27.7% indicated drinking slightly more, while 18.8% indicated drinking much more than usual. Only 11.5% indicated drinking less than usual and about 42% said their drinking had not changed.

Those who used alcohol during the pandemic reported higher stress levels compared to those who did not use alcohol, $p<0.001$. Similarly, those who indicated drinking more alcohol during the pandemic also had significantly higher stress levels than those whose drinking stayed the same ($p<0.001$) or decreased ($p<0.001$).

Most participants (55.6%) reported having alcohol 9 or fewer days during the month; nearly 9% reported daily drinking over the past 30 days.



On the days when you drank alcohol, about how many drinks did you have on average?



Similarly, on days when participants would drink, most (67%) reported drinking one or two drinks per day. Just over 7% indicated having 5 or more drinks per day on an average drinking day, indicating binge drinking.

CIGARETTES

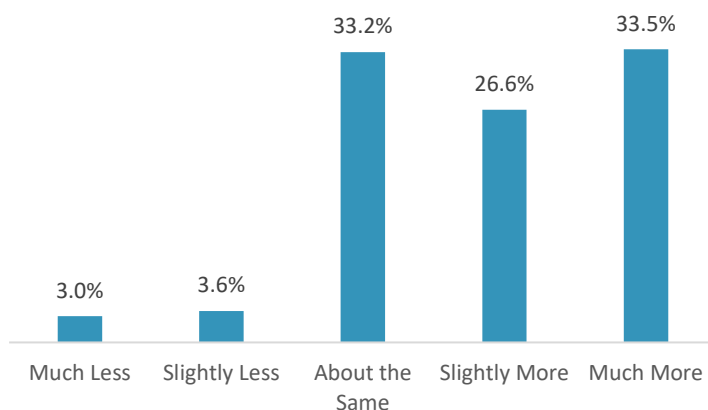
When asked to compare their cigarette use during the pandemic to their smoking before the pandemic, over 60% reported an increase in smoking during the pandemic. Only 6.6% said their smoking decreased, and 33.2% said their cigarette use had not changed at all.

The overwhelming majority of participants (77.8%) reported smoking cigarettes every day for the past 30 days.

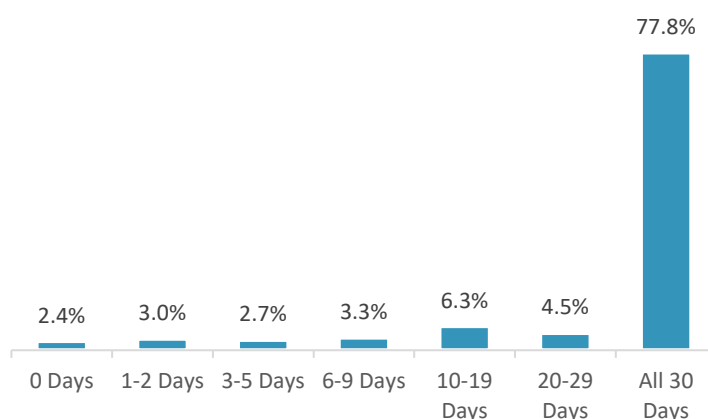
Along with high rates of daily smoking, over one-third of participants (34.5%) reported smoking 16 to 25 cigarettes per day, which is about a pack a day. Another 10.5% smoked about 26-35 cigarettes per day, and 3.3% more than 35 cigarettes daily.

Reported stress levels were significantly higher among cigarette smokers compared to non-smokers, $p < 0.01$. Cigarette smokers had a mean stress score of 6.7 compared to 6.2 in non-smokers. Stress level was highest among those who reported an increase in smoking during the pandemic, as well as those reporting loss of mental health care.

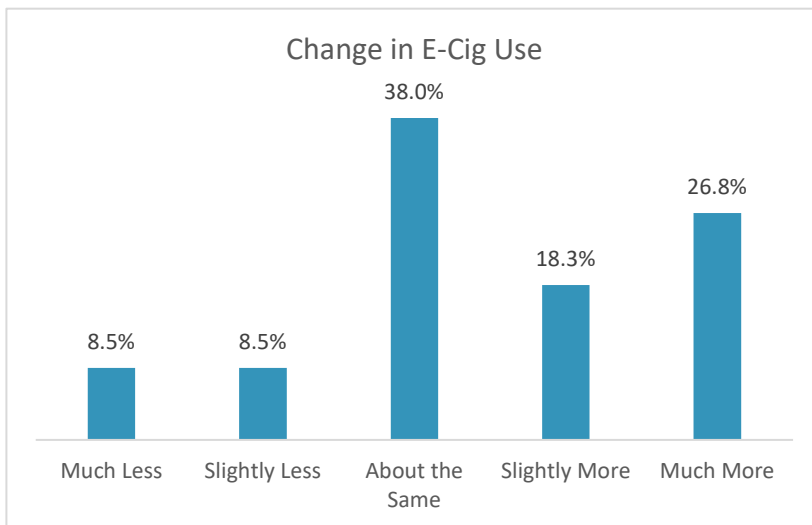
Change in Cigarette Use



Past 30 Day Cigarette Use



E-CIGARETTES

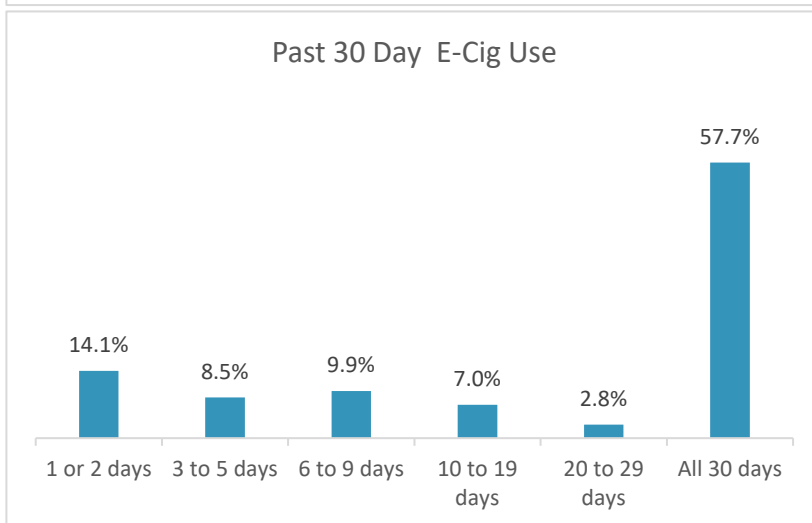


When asked to compare their e-cigarette use during the pandemic to their use before the pandemic, about 45% reported an increase in e-cigarette use. Thirty-eight percent (38%) indicated their e-cigarette use had not changed. About 17% said their use decreased during the pandemic.

Over half (57%) of e-cigarette users reported daily use over the past 30 days.

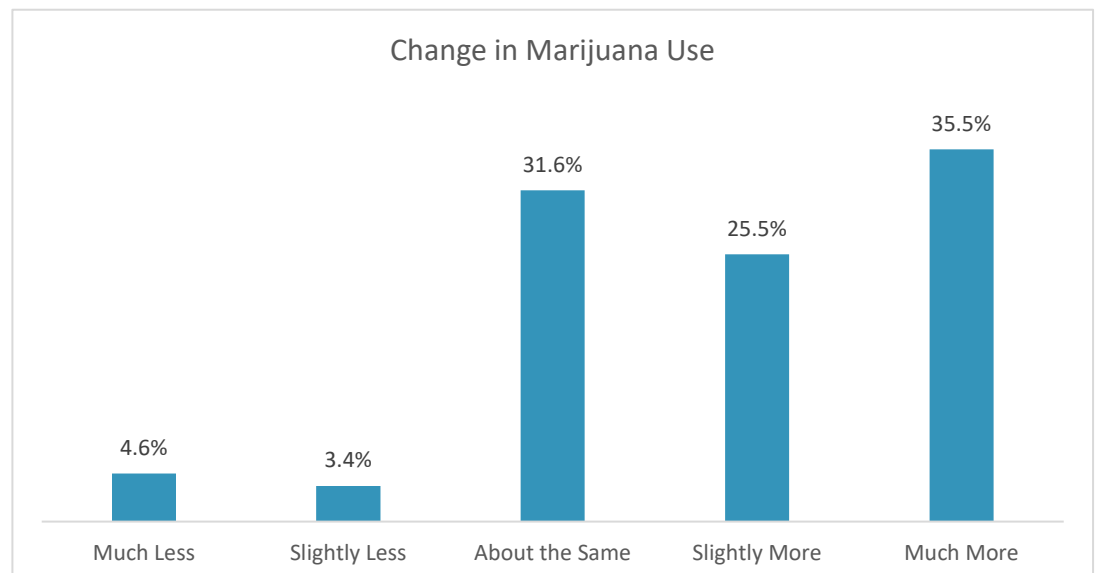
When asked which products participants use in their e-cigarettes, most (81.7%) indicated they used nicotine. About 16% said they used flavor only, and about 17% said they use their e-cigarette with marijuana.

Reported stress level was significantly higher among e-cigarette users (7.2) compared to non-users (6.2), $p < 0.01$.

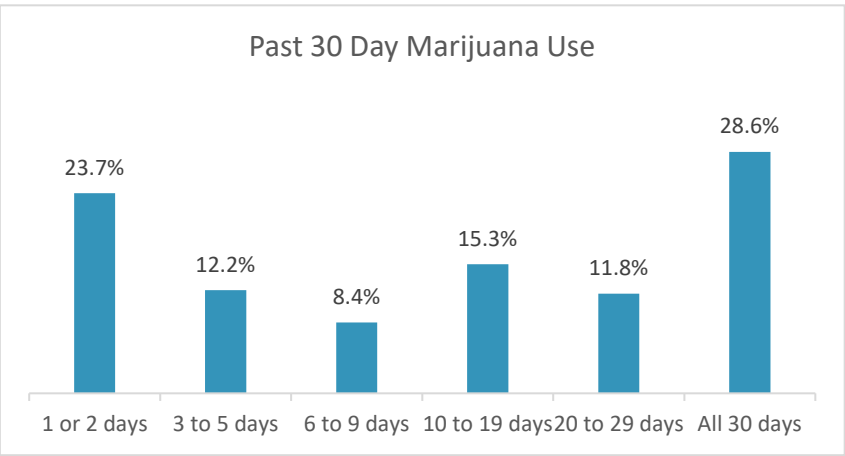


MARIJUANA

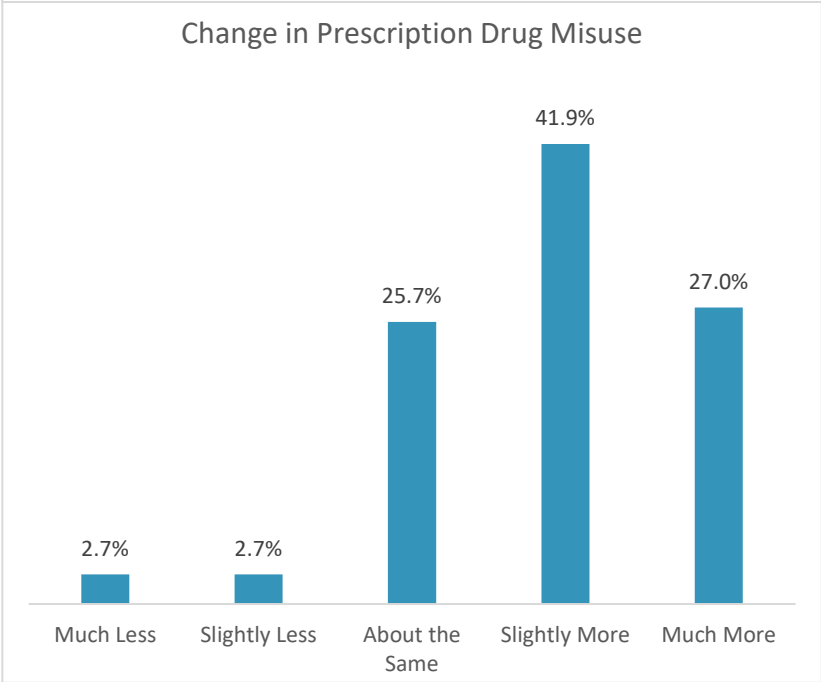
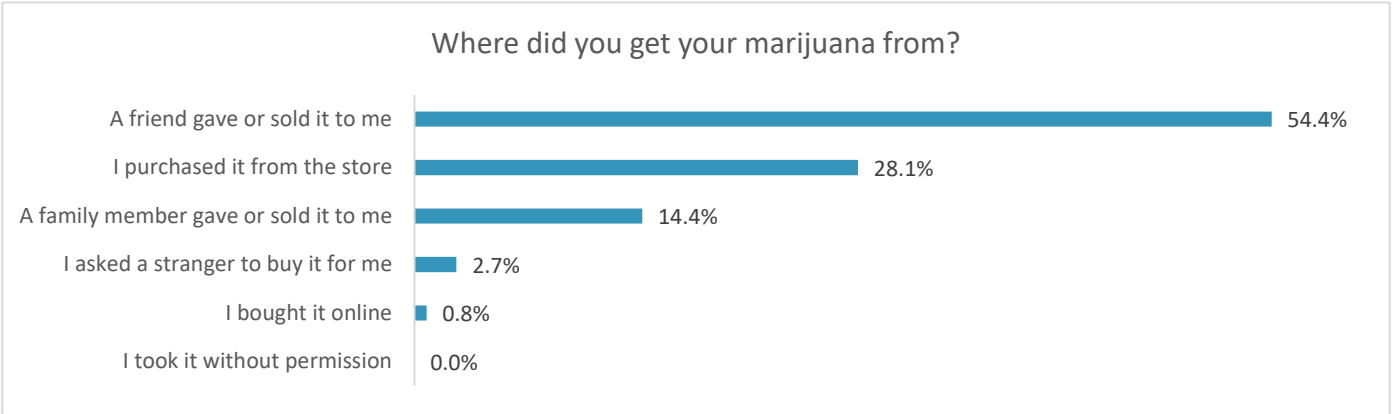
When asked to compare their marijuana use before the pandemic to their use during the pandemic, nearly all (96%) marijuana users indicated they used marijuana more during the pandemic than before. Past 30-day use varied, with 23.4% using only 1 or 2 days of the month, and 28.6% using daily.



Over half of participants (54.4%) indicated that they got their marijuana from a friend; the next most common method was purchasing from a store (28.1%). While there are no marijuana dispensaries in Missouri, most (60%) of the participants reporting store purchases live in counties bordering Illinois (i.e. St. Charles, Jefferson, St. Louis City, St. Louis County), where marijuana dispensaries are open.



Marijuana use was associated with higher stress levels compared to non-users, $p<0.001$. The mean stress score among marijuana users was 7.1 compared to 6.2 in non-users.



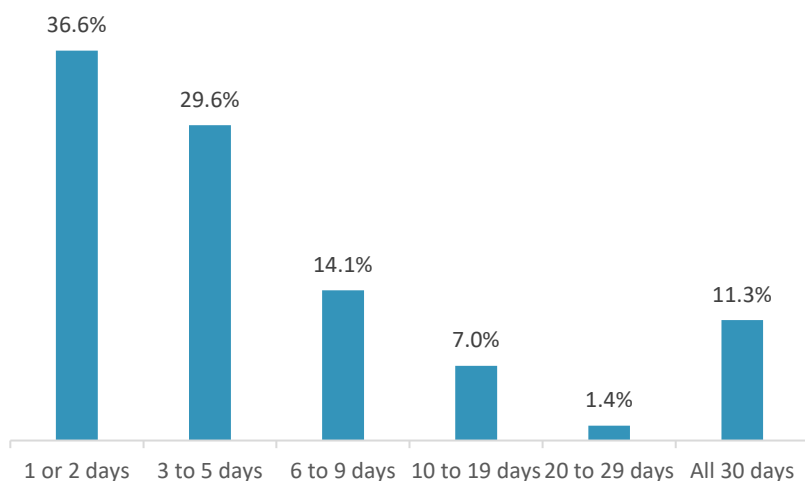
PRESCRIPTION DRUGS

When asked to compare their prescription drug misuse during the pandemic to the time before the pandemic, nearly 69% indicated misuse “slightly more” or “much more” than usual. Slightly over 5% indicated a decrease in use during the pandemic.

Most reported misusing drugs occasionally: 36.5% indicated 1 or 2 days per month, 29.6% indicated 3-5 days per month, and 14.1% indicated 6 to 9 days per month. Just over 11% of those misusing prescription drugs reported doing so every day for

the past 30 days.

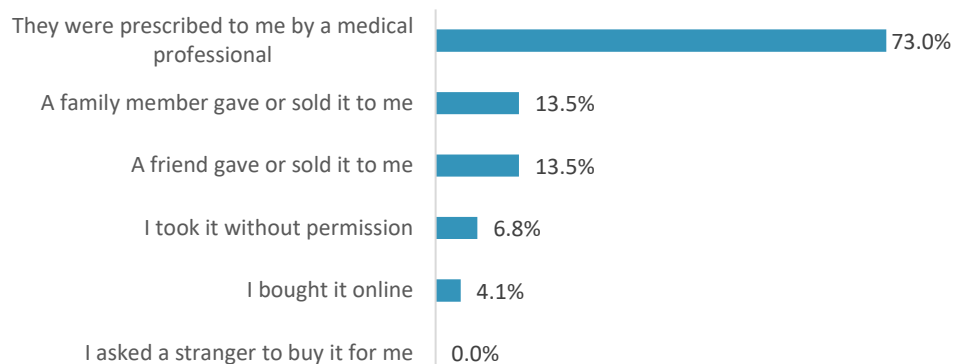
Past 30 Day Prescription Drug Misuse



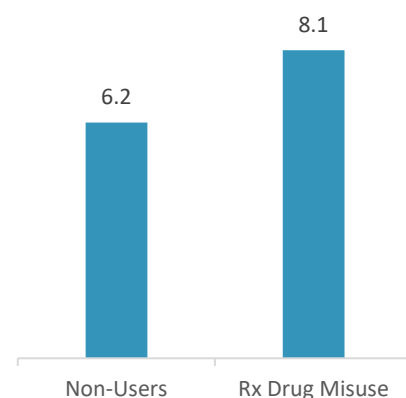
Nearly three in four participants (73.3%) indicated that their prescription drugs were prescribed to them by a medical professional. The other most common methods were buying from friends or family (13.5% each).

Stress levels were significantly higher in those misusing prescription drugs compared to those who did not, $p < 0.001$.

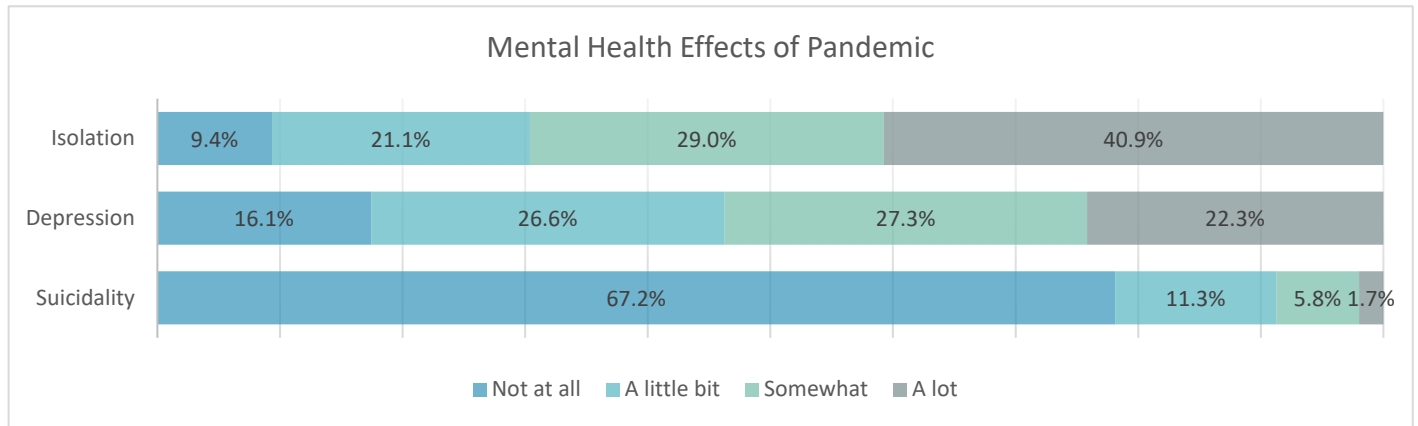
Where did you get your prescription drugs from?



Mean Stress Level



Mental Health



ISOLATION

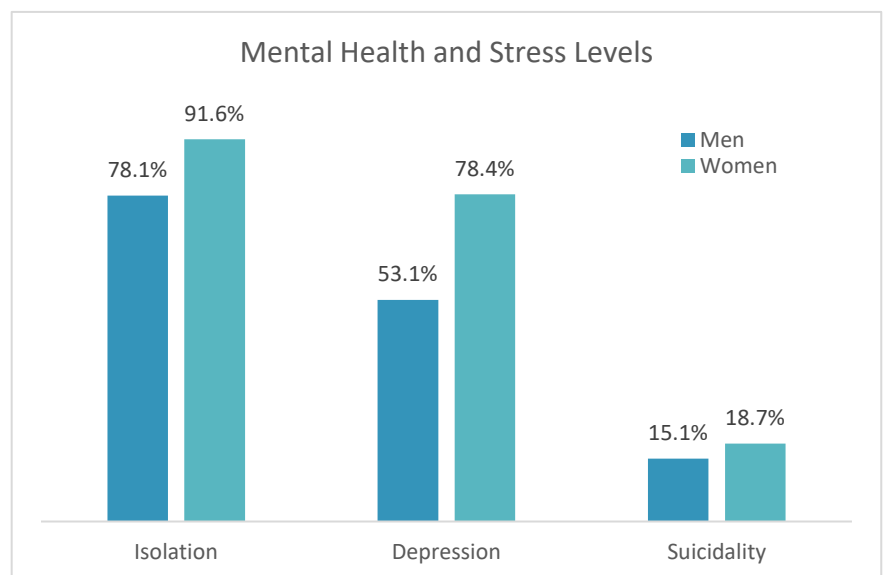
Over 90% of participants indicated experiencing at least some feelings of isolation due to the pandemic; 41% felt isolated “a lot”. Less than 1 in 10 participants indicated not feeling isolated at all. Stress levels were significantly higher among those who reported feelings of isolation, mean stress level was 6.6 compared to 3.7 in those who did not feel isolated, $p < 0.001$. Women were also more likely to report isolation compared to men, $p < 0.001$. Isolation was reported in 91.6% of women and 78.1% of men.

DEPRESSION

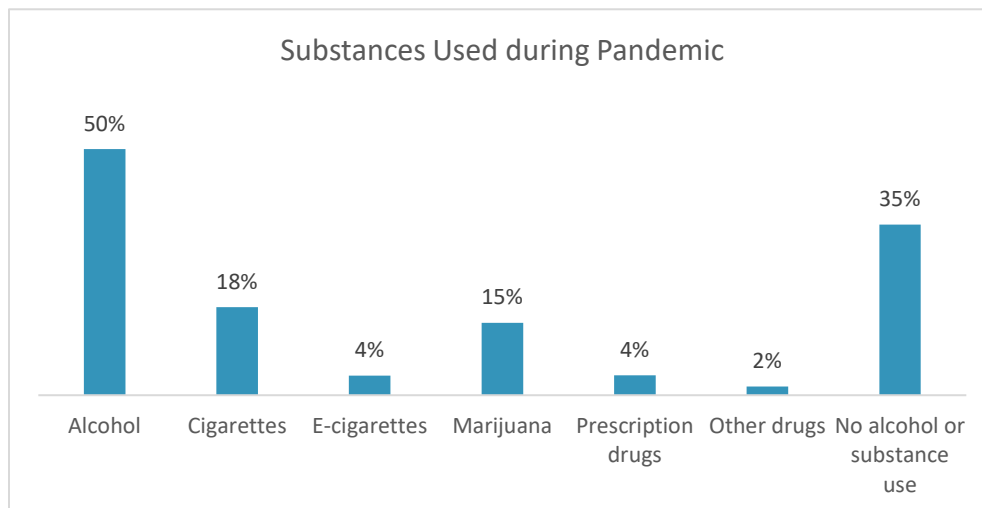
Half of participants (49.6%) endorsed feeling “somewhat” or “a lot” depressed during the pandemic. Those who felt depressed were significantly more likely to have high levels of stress, $p < 0.001$. Mean stress level among those reporting depression was 7.0 compared to 4.0 in those not experiencing depression. Relatedly, loss of mental health care, female gender, and high levels of stress were significantly associated with feeling depressed, $p < 0.001$.

SUICIDALITY

While most participants (67.2%) indicated feeling no suicidal ideation, 7.5% felt suicidal thoughts and/or attempts “somewhat” or “a lot” during the pandemic. Individuals reporting suicidal thoughts or behaviors had significantly higher levels of stress, $p < 0.001$. The mean stress score was 7.6 in those experiencing suicidality compared to 6.0 in those not experiencing suicidality. Rates of suicidality were significantly higher in those reporting loss of mental health care or employment, $p < 0.001$.



DISCUSSION



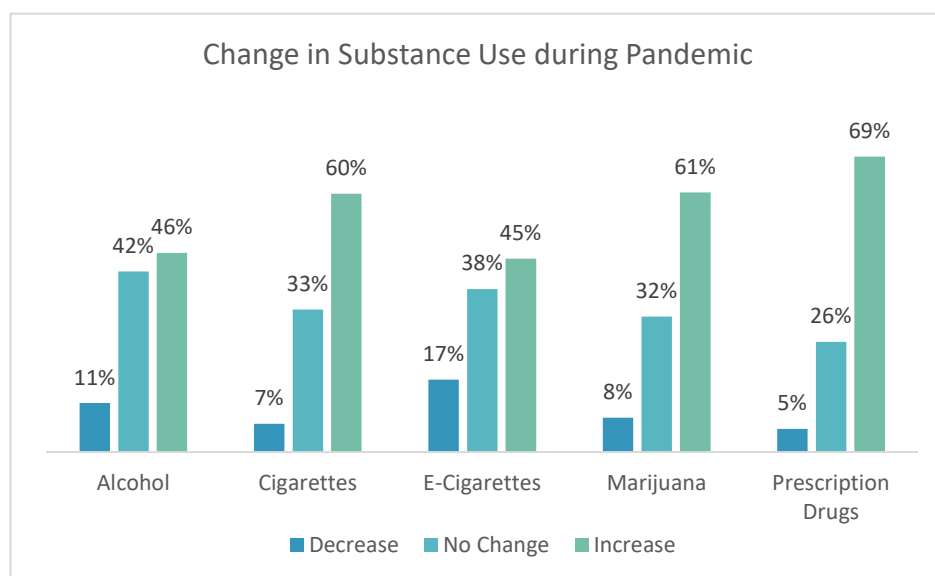
While over one-third of participants indicated no alcohol or substance use during the pandemic, over half indicated using alcohol, 18% reported cigarette use, and 15% reported marijuana use. Very few participants (1.8%) used other drugs such as cocaine, LSD, or methamphetamines. Approximately 15% of participants reported using more than 1 drug during the pandemic.

The drug that participants most frequently noted an increase in use was prescription drugs (68.9%), closely followed by marijuana (60.5%), and cigarettes (60.2%). E-cigarettes had the highest decrease in use with nearly 17% of e-cigarette users reporting less use than usual during the pandemic.

Isolation and depression were extremely common during the pandemic, with over 90% of participants indicating feeling isolated at least some of the time, and 84% feeling depressed at least some of the time. Similarly, three-quarters of participants reported experiencing various types of loss during the pandemic, including loss of childcare, health care, mental health care, and/or income/employment.

High levels of stress were also common among the participants and were significantly associated with a number of outcomes, including depression, suicide, isolation, and substance use. A linear regression revealed that female gender, prescription drug misuse, depression, isolation, suicide, and loss of employment were all significantly predictive of high stress levels among the participants, $R^2 = .304$ (see Appendix D).

Results should be interpreted with caution as the sample was skewed toward a white and female population, largely from urban areas in Missouri.



Appendix A: Facebook Ads



Tell us about your experience during COVID-19!

Complete this survey for a chance to win a \$20 gift card (must be 18 years or older to enter).



Is quarantine stressful? We want to hear about it!

Complete this survey for a chance to win a \$20 gift card (must be 18 years or older to enter).



How has the pandemic affected you? We want to hear.

Complete this survey for a chance to win a \$20 gift card (must be 18 years or older to enter).



Has COVID-19 affected your mental health? We want to hear.

Complete this survey for a chance to win a \$20 gift card (must be 18 years or older to enter).

Appendix B: Survey Questions

COVID-19 Behavioral Health Assessment

Start of Block: Consent

Q40 Thank you for agreeing to complete this survey. The primary benefit of completing this survey is the opportunity to help us learn more about how the COVID-19 Pandemic is affecting Missourians. The only risk in taking part is potential discomfort associated with answering questions about your experiences. Importantly, we will keep your responses confidential and visible only to project personnel. We are extremely grateful for your willingness to complete this survey. Those who complete the survey will have the option to enter a raffle to win a \$20 Amazon gift card. Approximately 100 will be awarded. In order to enter, you will be asked to provide your contact information such that we can reach you if you are a winner. Entering the raffle is completely optional. If you have any questions related to your participation, feel free to contact me, Susan Depue, Ph.D., at susan.depue@mimh.edu or by phone 314-516-8412.

Q41 Electronic Informed Consent for Participation in Research Activities COVID-19 Behavioral Health Survey

Summary of the Study

The purpose of this survey is to help us learn more about how Missourians are affected by the ongoing COVID-19 pandemic. The survey should take approximately 10-15 minutes to complete and is completely voluntary. If you choose not to participate, just close your browser window and do not proceed to the survey. There are no foreseeable risks or expected benefits to you for this research. You are invited to participate in a research study conducted by Susan Depue at the Missouri Institute of Mental Health, University of Missouri – Saint Louis.

Your participation will involve completing a survey about your experiences during the COVID-19 pandemic, including questions about your drug and alcohol use, mental health, and other behaviors. Approximately 5000 participants may be involved in this research at the University of Missouri-St. Louis. The amount of time involved in your participation will be approximately 10-15 minutes.

Potential Risks There are no known risks associated with this research (other than the potential for mild boredom or fatigue).

Upon completing the survey, you will have the option to enter a raffle to win a \$20 Amazon gift card. To enter the raffle, you will need to provide your name and contact information. This will not be linked back to your survey responses in any way. Entering the raffle is completely optional.

Benefits of Participation There are no direct benefits for you participating in this study. The data collected from all participants will be combined and used to prepare a report that will be distributed to the Missouri Department of Mental Health as well as stakeholders across the State. Information learned from this survey will be used to improve the coordination of services and inform responses to the COVID-19 pandemic.

Your participation is voluntary, and you may choose not to participate in this research study or withdraw your consent at any time. You will NOT be penalized in any way should you choose not to participate or withdraw. You may also choose not to answer any question that makes you uncomfortable. There will be no penalty for not participating or not responding to specific items. If you do choose to participate, the information you provide will be kept strictly confidential.

Privacy

We will do everything we can to protect your privacy. You will not be personally identified in any report or discussion of results. In order to ensure that all information will remain confidential, please do not include your name or any other identifying information in any of the text-entry fields of the survey. As part of this effort, your identity will not be revealed in any publication that may result from this study. In rare instances, a researcher's study must undergo an audit or program evaluation by an oversight agency (such as the Office for Human Research Protection) that would lead to disclosure of your data as well as any other information collected by the researcher.

If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Susan Depue at 314-516-8412. You may also ask questions or state concerns regarding your rights as a research participant to the Office of Research, at 314-516-5897.

Q47 I have read this consent form. By proceeding to the next page of the survey, I hereby consent to my participation in the research described above.

Yes (1)

No (2)

End of Block: consent

Start of Block: Quarantine Behaviors

Q8 Has a medical professional ever diagnosed you with COVID-19?

Yes, diagnosed by a medical professional (1)

No, I have never been diagnosed with COVID-19 by a medical professional. (2)

Waiting for test results from a medical professional (3)

Q9 Do you know anyone (friends or family) that has been diagnosed with COVID-19?

Yes (1)

Not sure (2)

No (3)

Q10 Rate your stress level about the COVID-19 Pandemic, with 0 meaning "not stressed at all" and 10 meaning "extremely stressed".

0 1 2 3 4 5 6 7 8 9 10

Stress Level ()



Q39 Is your stress level about the pandemic high or lower than it was 30 days ago?

- Much higher (1)
- Moderately higher (2)
- Slightly higher (3)
- About the same (4)
- Slightly lower (5)
- Moderately lower (6)
- Much lower (7)

Q42 To what extent have you experienced any of the following due to the COVID-19 pandemic? Select all that apply.

	Not at all (1)	A little bit (2)	Somewhat (3)	A lot (4)
Isolation due to social distancing (1)				
Loss of employment/income (2)				
Loss of medical care (3)				
Loss of mental health care (4)				
Loss of childcare, school, summer camps, etc. for children (5)				
Depression (6)				
Suicidal thoughts and/or attempts (7)				

End of Block: Quarantine Behaviors

Start of Block: Substance Use Screener

Q12 During the COVID-19 pandemic, which of the following substances did you use at least once? Check all that apply.

- Alcohol (1)
- Cigarettes (2)
- E-cigarettes or vape (3)
- Marijuana (pot, weed) (4)
- Prescription drugs, not as prescribed by a doctor (5)
- Other substances, including LSD, cocaine, methamphetamine, or club drugs. (6)
- I did not drink alcohol or use any substances (7)

End of Block: Substance Use Screener

Start of Block: Alcohol

Q13 In the past 30 days, on how many days did you drink alcohol?

- 1 or 2 days (1)
 - 3 to 5 days (2)
 - 6 to 9 days (3)
 - 10 to 19 days (4)
 - 20 to 29 days (5)
 - All 30 days (6)
 - I drank alcohol during the pandemic, but not in the last 30 days (7)
-

Q14 Did your alcohol use change during the COVID-19 pandemic?

- I drank alcohol much more than I usually do (1)
 - I drank alcohol slightly more than I usually do (2)
 - I drank alcohol about the same amount as I usually do (3)
 - I drank alcohol slightly less than I usually do (4)
 - I drank alcohol much less than I usually do (5)
-

Q16 On the days when you drank alcohol, about how many drinks did you have on average?

- One (1)
- Two (2)
- Three (3)
- Four (4)
- 5 or more (5)

End of Block: Alcohol

Start of Block: Cigarettes

Q43 In the past 30 days, on how many days did you use cigarettes?

- 1 or 2 days (1)
 - 3 to 5 days (2)
 - 6 to 9 days (3)
 - 10 to 19 days (4)
 - 20 to 29 days (5)
 - All 30 days (6)
 - I used cigarettes during the pandemic, but not in the last 30 days (7)
-

Q44 Did your cigarette use change during the COVID-19 pandemic?

- I used cigarettes much more than I usually do (1)
 - I used cigarettes slightly more than I usually do (2)
 - I used cigarettes about the same amount as I usually do (3)
 - I used cigarettes slightly less than I usually do (4)
 - I used cigarettes much less than I usually do (5)
-

Q46 On the days when you used cigarettes, about how many did you have on average?

- Part of one cigarette per day (1)
- 1 cigarette per day (2)
- 2 to 5 cigarettes per day (3)
- 6 to 15 cigarettes per day (about 1/2 pack) (4)
- 16 to 25 cigarettes per day (about 1 pack) (5)
- 26 to 35 cigarettes per day (about 1 1/2 packs) (6)
- More than 35 cigarettes per day (about 2 packs or more) (7)

End of Block: Cigarettes

Start of Block: E-cigs/vapes

Q26 In the past 30 days, on how many days did you use e-cigarettes or vapes?

- 1 or 2 days (1)
 - 3 to 5 days (2)
 - 6 to 9 days (3)
 - 10 to 19 days (4)
 - 20 to 29 days (5)
 - All 30 days (6)
-

Q27 Did your e-cigarette/vape use change during the COVID-19 pandemic?

- I used e-cigarette/vapes much more than I usually do (1)
 - I used e-cigarette/vapes slightly more than I usually do (2)
 - I used e-cigarette/vapes about the same amount as I usually do (3)
 - I used e-cigarette/vapes slightly less than I usually do (4)
 - I used e-cigarette/vapes much less than I usually do (5)
-

Q29 What do you use in your e-cig or vape?

- Nicotine (1)
- Marijuana (2)
- Flavor only (3)

End of Block: E-cigs/vapes

Start of Block: Marijuana

Q18 In the past 30 days, on how many days did you use marijuana?

- 1 or 2 days (1)
 - 3 to 5 days (2)
 - 6 to 9 days (3)
 - 10 to 19 days (4)
 - 20 to 29 days (5)
 - All 30 days (6)
-

Q19 Did your marijuana use change during the COVID-19 pandemic?

- I used marijuana much more than I usually do (1)
 - I used marijuana slightly more than I usually do (2)
 - I used marijuana about the same amount as I usually do (3)
 - I used marijuana slightly less than I usually do (4)
 - I used marijuana much less than I usually do (5)
-

Q20 Where did you get your marijuana from?

- I purchased it from the store (1)
 - A friend gave or sold it to me (2)
 - A family member gave or sold it to me (3)
 - I asked a stranger to buy it for me (4)
 - I took it without permission (5)
 - I bought it online (6)
-

End of Block: Marijuana

Start of Block: Rx Drugs

Q36 In the past 30 days, on how many days did you use prescription drugs (in a way not prescribed by a doctor)?

- 1 or 2 days (1)
 - 3 to 5 days (2)
 - 6 to 9 days (3)
 - 10 to 19 days (4)
 - 20 to 29 days (5)
 - All 30 days (6)
-

Q37 Did your prescription drug use change during the COVID-19 pandemic?

- I used prescription drugs much more than I usually do (1)
 - I used prescription drugs slightly more than I usually do (2)
 - I used prescription drugs about the same amount as I usually do (3)
 - I used prescription drugs slightly less than I usually do (4)
 - I used prescription drugs much less than I usually do (5)
-

Q38 Where did you get your prescription drugs from?

- They were prescribed to me by a medical professional (1)
- A friend gave or sold it to me (2)
- A family member gave or sold it to me (3)
- I asked a stranger to buy it for me (4)
- I took it without permission (5)
- I bought it online (6)

End of Block: Rx Drugs

Start of Block: Drugs Used

Q35 Which substances have you used in the past 30 days?

- LSD (1)
- Cocaine (2)
- Methamphetamine (3)
- Other club drugs (4)

End of Block: Drugs Used

Start of Block: Other Drugs

Q22 In the past 30 days, on how many days did you use $\text{\$}\{Im://Field/1\}$?

- 1 or 2 days (1)
 - 3 to 5 days (2)
 - 6 to 9 days (3)
 - 10 to 19 days (4)
 - 20 to 29 days (5)
 - All 30 days (6)
-

Q23 Did your $\text{\$}\{\text{lm://Field/1}\}$ use change during the COVID-19 pandemic?

- I used $\text{\$}\{\text{lm://Field/1}\}$ much more than I usually do (1)
 - I used $\text{\$}\{\text{lm://Field/1}\}$ slightly more than I usually do (2)
 - I used $\text{\$}\{\text{lm://Field/1}\}$ about the same amount as I usually do (3)
 - I used $\text{\$}\{\text{lm://Field/1}\}$ slightly less than I usually do (4)
 - I used $\text{\$}\{\text{lm://Field/1}\}$ much less than I usually do (5)
-

Q24 Where did you get your $\text{\$}\{\text{lm://Field/1}\}$ from?

- I purchased it from the store (1)
- A friend gave or sold it to me (2)
- A family member gave or sold it to me (3)
- I asked a stranger to buy it for me (4)
- I took it without permission (5)
- I bought it online (6)

End of Block: Other Drugs

Start of Block: Demographics

Q1 What is your age?

- 17 or younger (1)
 - 18-25 (2)
 - 26-35 (3)
 - 36-45 (4)
 - 46-55 (5)
 - 55-64 (6)
 - 65 or older (7)
-

Q2 What is your gender?

- Male (1)
 - Female (2)
 - Other (3)
 - Prefer not to say (4)
-

Q3 Which of the following describes you? Check all that apply

- African American or Black (1)
- American Indian or Alaskan Native (2)
- Asian (3)
- Native Hawaiian or other Pacific Islander (4)
- White (5)
- Other (6)

Q4 Are you Hispanic or Latino?

Yes, I am Hispanic or Latino (1)

No, I am not Hispanic or Latino (2)

Q5 What county do you live in?

▼ Adair County (1) ... Saint Louis City (115)

End of Block: Demographics

Start of Block: Redirect

Q48 Thank you for completing the survey. If you wish to enter the raffle to win a \$20 Amazon gift card, please [click here](#) to provide your contact information.

If you do not want to enter the raffle, you may close your browser window.

End of Block: Redirect

Start of Block: Default Question Block

COVID-19 Redirect

Q1 Thank you for taking our survey!

If you wish enter the raffle to win a \$20 gift card, please provide your contact information below. If you win, we will contact you and you will have 5 days to respond before we select another winner.

Q2 Name

Q3 Phone Number

Q4 Email Address

Appendix C: Participation by County

County	% Participants	County	%	County	%
Adair	0.7	Grundy	0.2	Perry	0.3
Andrew	0.1	Harrison	0.2	Pettis	0.8
Atchison	0.1	Henry	0.4	Phelps	0.9
Audrain	0.6	Hickory	0.1	Pike	0.2
Barry	0.5	Holt	0.0	Platte	0.7
Barton	0.4	Howard	0.3	Polk	0.3
Bates	0.3	Howell	0.5	Pulaski	0.6
Benton	0.6	Iron	0.1	Putnam	0.1
Bollinger	0.2	Jackson	6.3	Ralls	0.1
Boone	3.2	Jasper	1.5	Randolph	0.4
Buchanan	1.7	Jefferson	3.2	Ray	0.3
Butler	0.7	Johnson	1.2	Reynolds	0.2
Caldwell	0.2	Knox	0.1	Ripley	0.5
Callaway	0.7	Laclede	0.5	Saline	0.1
Camden	1.3	Lafayette	0.7	Schuyler	0.0
Cape Girardeau	1.2	Lawrence	0.8	Scotland	0.0
Carroll	0.2	Lewis	0.2	Scott	0.2
Carter	0.1	Lincoln	0.9	Shannon	0.1
Cass	0.8	Linn	0.3	Shelby	0.1
Cedar	0.3	Livingston	0.3	St. Charles	5.2
Chariton	0.2	Macon	0.4	St. Clair	0.2
Christian	0.8	Madison	0.1	St. Francois	0.5
Clark	0.0	Maries	0.1	St. Louis	20.2
Clay	2.8	Marion	0.6	St. Louis City	12.0
Clinton	0.4	McDonald	0.3	Ste. Genevieve	0.4
Cole	1.5	Mercer	0.1	Stoddard	0.5
Cooper	0.5	Miller	0.5	Stone	0.5
Crawford	0.3	Mississippi	0.1	Sullivan	0.1
Dade	0.2	Moniteau	0.2	Taney	0.7
Dallas	0.2	Monroe	0.2	Texas	0.2
Daviess	0.1	Montgomery	0.1	Vernon	0.3
DeKalb	0.1	Morgan	0.5	Warren	0.4
Dent	0.3	New Madrid	0.2	Washington	0.3
Douglas	0.3	Newton	0.8	Wayne	0.3
Dunklin	0.2	Nodaway	0.4	Webster	0.5
Franklin	1.7	Oregon	0.3	Worth	0.0
Gasconade	0.4	Osage	0.1	Wright	0.4
Gentry	0.1	Ozark	0.1		
Greene	4.8	Pemiscot	0.2		

Appendix D: Linear Regression Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.558 ^a	.312	.304	2.18883

a. Predictors: (Constant), loss_employment, cigarettes_dicot, race_rc, isolation_dicot, rx_dicot, loss_medical, ecigs_dicot, gender_dicot, alcohol_dicot, loss_childcare, other_dicot, suicide_dicot, mj_dicot, depression_dicot, loss_mental, nodrug_dicot

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3052.969	16	190.811	39.827	.000 ^b
	Residual	6745.672	1408	4.791		
	Total	9798.641	1424			

a. Dependent Variable: Rate your stress level about the COVID-19 Pandemic, with 0 meaning "not stressed at all" and 10 meaning "extremely stressed". - Stress Level

b. Predictors: (Constant), loss_employment, cigarettes_dicot, race_rc, isolation_dicot, rx_dicot, loss_medical, ecigs_dicot, gender_dicot, alcohol_dicot, loss_childcare, other_dicot, suicide_dicot, mj_dicot, depression_dicot, loss_mental, nodrug_dicot

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.139	.439		2.594	.010
	gender_dicot	.892	.183	.112	4.889	.000
	alcohol_dicot	-.066	.203	-.013	-.326	.745
	cigarettes_dicot	.090	.180	.013	.502	.616
	ecigs_dicot	.252	.296	.020	.852	.395
	mj_dicot	-.012	.183	-.002	-.063	.950
	rx_dicot	.654	.306	.050	2.135	.033
	other_dicot	-.043	.441	-.002	-.098	.922
	nodrug_dicot	-.556	.231	-.101	-2.408	.016
	race_rc	.194	.118	.037	1.643	.101
	depression_dicot	2.491	.167	.371	14.905	.000
	isolation_dicot	1.247	.219	.136	5.706	.000
	suicide_dicot	.645	.159	.100	4.046	.000
	loss_childcare	-.113	.136	-.019	-.831	.406
	loss_medical	.152	.130	.028	1.171	.242
	loss_mental	.248	.154	.041	1.612	.107
	loss_employment	.243	.125	.045	1.941	.052

a. Dependent Variable: Rate your stress level about the COVID-19 Pandemic, with 0 meaning "not stressed at all" and 10 meaning "extremely stressed". - Stress Level